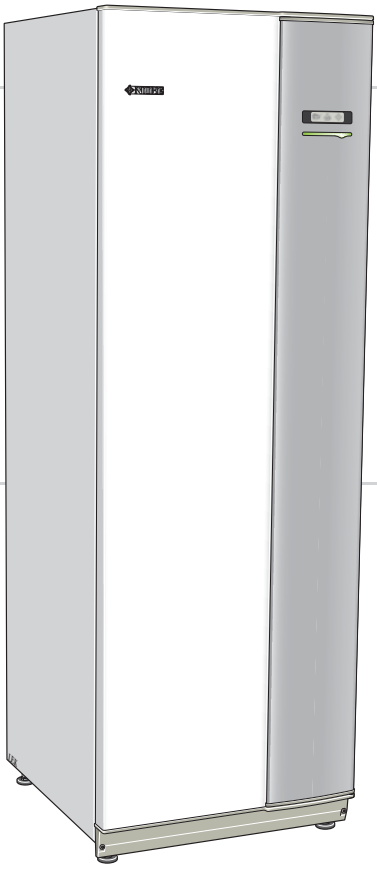


User manual

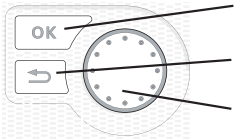
NIBE™ F1245

Ground source heat pump

AHB GB 0926-1
031336

Quick guide

Navigation



Ok button (confirm/select)

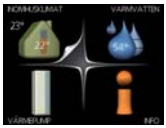
Back button (back/undo/exit)

Control knob (move/increase/reduce)

A detailed explanation of the button functions can be found on page 10.

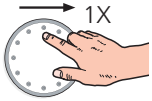
How to scroll through menus and make different settings is described on page 13.

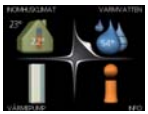
Set the indoor climate

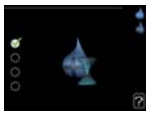


The mode for setting the indoor temperature is reached, when in the start mode in the main menu, by pressing the OK button twice. Read more about the settings on page 23.

Increase hot water volume







To temporarily increase the amount of hot water , first turn the control knob to mark menu 2 and then press the OK button twice. Read more about the settings on page 46.

In event of disturbances in comfort

If a disturbance in comfort of any type occurs there are some measures that can be taken before you need to contact your installer. See page 69 for instructions.

Table of Contents

1 Important information 2

Installation data 2

Safety information 3

Serial number 4

Contact information 5

F1245 – An excellent choice 6

2 The heat pump – the heart of the house 7

Heat pump function 8

Contact with F1245 9

Maintenance of F1245 17

3 F1245 – at your service 22

Set the indoor climate 22

Set the hot water capacity 45

Get information 51

Adjust the heat pump 55

4 Disturbances in comfort 68

Manage alarm 68

Troubleshooting 69

Only additional heat 72

5 Technical data 73

6 Glossary 74

Item register 80

1 Important information

Installation data

Product	F1245
Serial number	
Installation date	
Installer	
Type of brine - Mixing ratio/freezing point	
Active drilling depth/collector length	

No.	Name	De-fault set-tings	Set		✔	Accessories
1.9.1	heating curve (offset)	0				
1.9.1	heating curve (curve slope)	7				

Serial number must always be given

Certification that the installation is carried out according to instructions in NIBE's installer manual and applicable regulations.

Date _____ Signed _____

Safety information

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
Children should be supervised to ensure that they do not play with the appliance.
Rights to make any design or technical modifications are reserved.
©NIBE 2008.

Symbols

NOTE

This symbol indicates danger to machine or person.

Caution

This symbol indicates important information about what you should observe when maintaining your installation.

TIP

This symbol indicates tips on how to facilitate using the product.

Marking

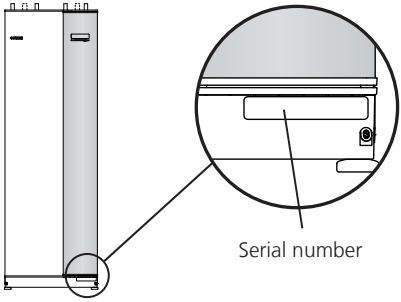
This heat pump is CE marked and fulfils IP21.

The CE marking means that NIBE ensures that the product meets all regulations that are placed on it based on relevant EU directives. The CE mark is obligatory for most products sold in the EU, regardless where they are made.

IP21 means that the product cannot be penetrated by objects with a diameter larger than or equivalent to 12.5 mm and cause damage and that the product is protected against vertically falling drops.

Serial number

The serial number can be found at the bottom right of the front cover and in the info menu (menu 3.1).



Caution

Always give the product's serial number when reporting a fault.

Contact information

AT **KNV Energietechnik GmbH**, Gahberggasse 11, 4861 Schörfling

Tel: +43 (0)7662 8963-0 Fax: +43 (0)7662 8963-44 E-mail: mail@knv.at www.knv.at

CH **NIBE Wärmetechnik AG**, Winterthurerstrasse 710, CH-8247 Flurlingen

Tel: (52) 647 00 30 Fax: (52) 647 00 31 E-mail: info@nibe.ch www.nibe.ch

CZ **Druzstevni zavody Drazice s.r.o**, Drazice 69, CZ - 294 71 Benatky nad Jizerou

Tel: +420 326 373 801 Fax: +420 326 373 803 E-mail: nibe@nibe.cz www.nibe.cz

DE **NIBE Systemtechnik GmbH**, Am Reiherpfahl 3, 29223 Celle

Tel: 05141/7546-0 Fax: 05141/7546-99 E-mail: info@nibe.de www.nibe.de

DK **Vølund Varmeteknik**, Filial af NIBE AB, Brogårdsvej 7, 6920 Videbæk

Tel: 97 17 20 33 Fax: 97 17 29 33 E-mail: info@volundvt.dk www.volund-vt.dk

FI **NIBE – Haato OY**, Valimotie 27, 01510 Vantaa

Puh: 09-274 697 0 Fax: 09-274 697 40 E-mail: info@haato.com www.haato.fi

GB **NIBE Energy Systems Ltd**, 3C Broom Business Park, Bridge Way, Chesterfield S41 9QG

Tel: 0845 095 1200 Fax: 0845 095 1201 E-mail: info@nibe.co.uk www.nibe.co.uk

NL **NIBE Energietechniek B.V.**, Postbus 2, NL-4797 ZG WILLEMSTAD (NB)

Tel: 0168 477722 Fax: 0168 476998 E-mail: info@nibenl.nl www.nibenl.nl

NO **NIBE AB**, Fekjan 15F, 1394 Nesbru

Tel: 22 90 66 00 Fax: 22 90 66 09 E-mail: info@nibe.se www.nibevillav-arme.no

PL **NIBE-BIAWAR Sp. z o. o.** Aleja Jana Pawła II 57, 15-703 BIAŁYSTOK

Tel: 085 662 84 90 Fax: 085 662 84 14 E-mail: sekretariat@biawar.com.pl www.biawar.com.pl

SE **NIBE AB Sweden**, Box 14, Järnvägsgatan 40, SE-285 21 Markaryd

Tel: +46-(0)433-73 000 Fax: +46-(0)433-73 190 E-mail: info@nibe.se www.nibe.se

F1245 – An excellent choice

F1245 is part of a new generation of heat pumps, which have been introduced to supply your home with inexpensive and environmentally friendly heating and/or cooling. Heat production is safe and economical with integrated water heater, immersion heater, circulation pump and control system.

The heat pump can be connected to an optional low temperature heat distribution system. e.g. radiators, convectors or under floor heating. It is also prepared for connection to several different products and accessories, e.g. extra hot water heater, ventilation recovery, pool, free cooling and climate systems with different temperatures.

An immersion heater of 9 kW (if 1 phase, 7 kW) can be connected automatically if anything unforeseen should occur or as reserve operation (then 6 kW).

F1245 is equipped with a control computer for good comfort, good economy and safe operation. Clear information about status, operation time and all temperatures in the heat pump are shown on the large and easy to read display. This means, for example, that external unit thermometers are not necessary.

Excellent properties for F1245:

- ***Integrated water heater***

  There is a water heater integrated in the heat pump, which is insulated with environmentally friendly cellular plastic for minimal heat loss.

- ***Scheduling the indoor comfort and hot water***

  Heating and hot water as well as cooling and ventilation in some cases, can be scheduled for each day of the week or for longer periods (vacation).

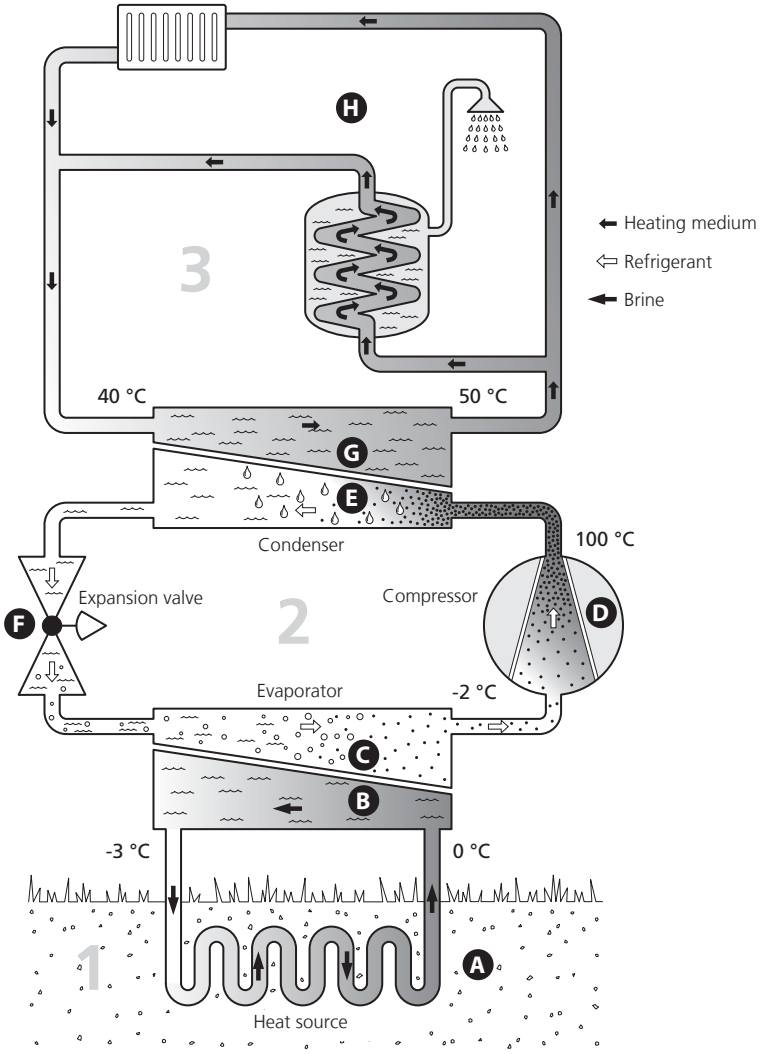
- ***Large display with user instructions***

  The heat pump has a large display with easy-to-understand menus that facilitate setting a comfortable climate.

- ***Simple troubleshooting***

  In the event of a fault, the heat pump display shows what happened and the actions to be taken.

2 The heat pump – the heart of the house



The temperatures are only examples and may vary between different installations and time of year.

Heat pump function

A heat pump can use stored solar energy from rock, ground or water in order to heat a property. The conversion of stored energy in nature to property heating occurs in three different circuits. In the brine circuit, (1) , free heat energy is retrieved from the surroundings and transported to the heat pump. In the refrigerant circuit, (2) , the heat pump increases the retrieved heat's low temperature to a high temperature. In the heating medium circuit, (3) , the heat is distributed around the house.

Brine circuit

A In a hose, collector, an anti-freeze liquid, brine, circulates from the heat pump out to the heat source (rock/ground/lake). The energy from the heat source is stored by it heating the brine a few degrees, from about –3°C to about 0 °C.

B The collector then routes the brine to the heat pump's evaporator. Here, the brine releases heat energy and the temperature drops a few degrees. The liquid then returns to the heat source to retrieve energy again.

Refrigerant circuit

C Another liquid circulates in a closed system in the heat pump, a refrigerant, which also passes the evaporator. The refrigerant has a very low boiling point. In the evaporator the refrigerant receives the heat energy from the brine and starts to boil.

D The gas that is produced during boiling is routed into an electrically powered compressor. When the gas is compressed, the pressure increases and the gas's temperature increases considerably, from 5 °C to approx. 100 °C.

E From the compressor, gas is forced into a heat exchanger, condenser, where it releases heat energy to the heating system in the house, whereupon the gas is cooled and condenses to a liquid form again.

F As the pressure is still high, the refrigerant can pass an expansion valve, where the pressure drops so that the refrigerant returns to its original temperature. The refrigerant has now completed a full cycle. It is routed to the evaporator again and the process is repeated.

Heat medium circuit

G The heat energy that the refrigerant produces in the condenser is retrieved by the heating system's water, heating medium, which is heated to 35 °C (supply temperature).

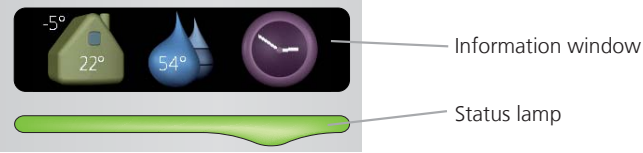
The heating energy that the refrigerant releases in the condenser is retrieved by the heat pump's boiler section.

H The heating medium circulates in a closed system and transports the heated water's heat energy to the house water heater and radiators/heating coils.

Contact with F1245

External information

When the heat pump door is closed, information can be received via an information window and a status lamp.



Information window

The information window shows part of the display that is on the display unit (located behind the door to the heat pump). The information window can display different type of information, e.g. temperatures, clock, etc.

You determine what is to be displayed in the information window. Your own combination of information is entered using the display unit. This information is specific to the information window and disappears when the heat pump door is opened.

Instructions on how to set the information window can be found on page 59.

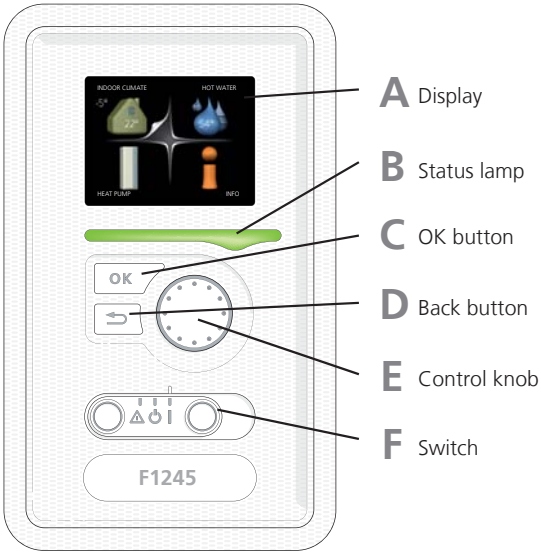
Status lamp

The status lamp indicates the status of the heat pump: continuous green light during normal function, continuous yellow light during activated emergency mode or continuous red light in the event of a deployed alarm.

Alarm management is described on page 68.

The temperatures are only examples and may vary between different installations and time of year.

Display unit



There is a display unit behind the heat pump door, which is used to communicate with F1245. Here you

- switch on, switch off or set the heat pump in emergency mode.
- sets the indoor climate and hot water as well as adjusts the heat pump to your needs.
- receive information about settings, status and events.
- see different types of alarms and receive instructions about how they are to be rectified.

A

Display

Instructions, settings and operational information are shown on the display. The easy-to-read display and menu system, facilitates navigation between the different menus and options to set the comfort or obtain the information you require.

B

Status lamp

The status lamp indicates the status of the heat pump. It:

- lights green during normal operation.
- lights yellow in emergency mode.
- lights red in the event of a deployed alarm.

C

OK button

The OK button is used to:

- confirm selections of sub menus/options/set values/page in the start guide.

D

Back button

The back button is used to:

- go back to the previous menu.
- change a setting that has not been confirmed.

E

Control knob

The control knob can be turned to the right or left. You can:

- scroll in menus and between options.
- increase and decrease the values.
- change page in multiple page instructions (for example help text and service info).

F

Switch

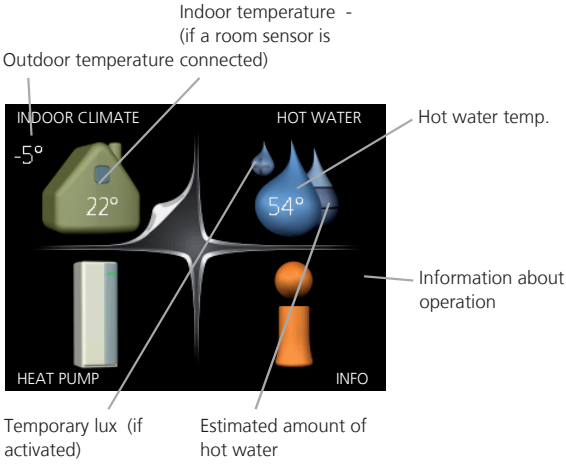
The switch assumes three positions:

- On (I)
- Standby (⏻)
- Emergency mode (⚠)

Emergency mode must only be used in the event of a fault on the heat pump. In this mode, the compressor switches off and the immersion heater engages. The heat pump display is not illuminated and the status lamp illuminates yellow.

Menu system

When the door to the heat pump is opened, the menu system's four main menus are shown in the display as well as certain basic information.



Menu 1

INDOOR CLIMATE

Setting and scheduling the indoor climate. See page 22.

Menu 2

HOT WATER

Setting and scheduling hot water production. See page 45.

Menu 3

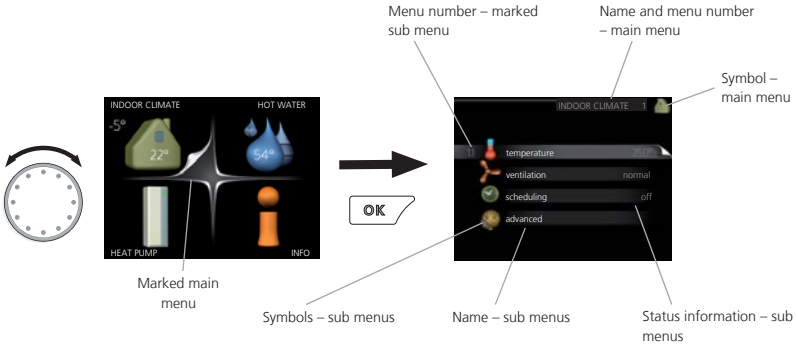
INFO

Display of temperature and other operating information and access to the alarm log. See page 51.

Menu 4

HEAT PUMP

Setting time, date, language, display, operating mode etc. See page 55.



Operation

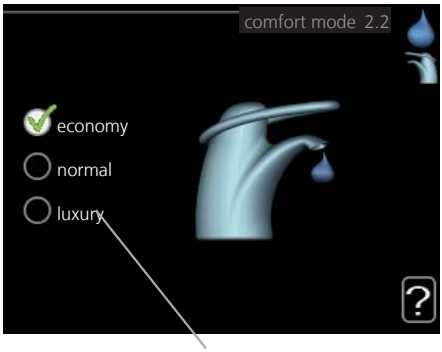
To move the cursor, turn the control knob to the left or the right. The marked position is always brighter and/or has a turned up tab.

Selecting menu

To advance in the menu system select a main menu by marking it and then pressing the OK button. A new window then opens with sub menus.

Select one of the sub menus by marking it and then pressing the OK button.

Selecting options

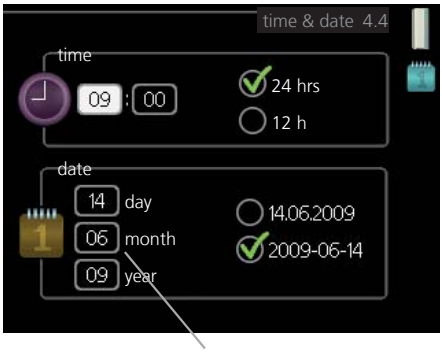


In an options menu the current selected option is indicated by a green tick.

To select another option:

1. Mark the applicable option. One of the options is pre-selected (white).
2. Press the OK button to confirm the selected option. The selected option has a green tick.

Setting a value



To set a value:

1. Mark the value you want to set using the control knob.

2. Press the OK button. The background of the value becomes green, which means that you have accessed the setting mode.

3. Turn the control knob to the right to increase the value and to the left to reduce the value.

4. Press the OK button to confirm the value you have set. To undo and return to the original value, press the Back button.

Scroll through the windows

A menu can consist of several windows. Turn the control knob to scroll between the windows.

Current menu window

Number of windows in the

Scroll through the windows in the start guide

Arrows to scroll through window in start guide

1. Turn the control knob until the arrow in the top left corner (at the page number) has been marked.
2. Press the OK button to access the next step in the start guide.

Help menu

In many menus there is a symbol that indicates that extra help is available.

To access the help text:

1. Use the control knob to select the help symbol.
2. Press the OK button.

The help text often consists of several windows that you can scroll between using the control knob.

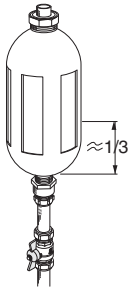
Maintenance of F1245

Regular checks

Your heat pump is, in principle, maintenance free and therefore requires minimal care after commissioning. On the other hand, it is recommended that you check your installation regularly.

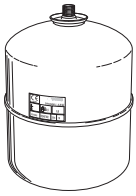
If something unusual occurs, messages about the malfunction appear in the display in the form of different alarm texts. See alarm management on page 68.

Level vessel



The brine that obtains the heat in the ground is not normally consumed but just pumped around. In most installations, there is a level vessel where you can check if there is sufficient fluid in the system. Ask your installer if you are unsure where the level vessel is located. The level can vary due to the fluid's temperature. If the level is below 1/3 topping up is required. Contact your installer for assistance with filling.

Expansion vessel



The brine that obtains the heat in the ground is not normally consumed but just pumped around. In some installations there is an expansion tank instead of a level vessel (for example, where the heat pump is not at the highest point in the brine system) where the system pressure can be checked. Ask your installer if you are unsure where the expansion tank is located. The pressure can vary due to the fluid's temperature. The pressure should not fall below 0.5 bar. Contact your installer for assistance with filling.

Safety valve

The water heater's safety valve sometimes releases a little water after hot water usage. This is because the cold water, which enters the water heater to replace the hot water, expands when heated causing the pressure to rise and the safety valve to open.

The function of the safety valve must be checked regularly. You can find the safety valve on the incoming pipe (cold water) to the water heater. Perform checks as follows:

1. Open the valve by turning the knob anti-clockwise carefully.
2. Check that water flows through the valve.
3. Close the valve by releasing it. If it does not close automatically when released, turn it anti-clockwise slightly.

Saving tips

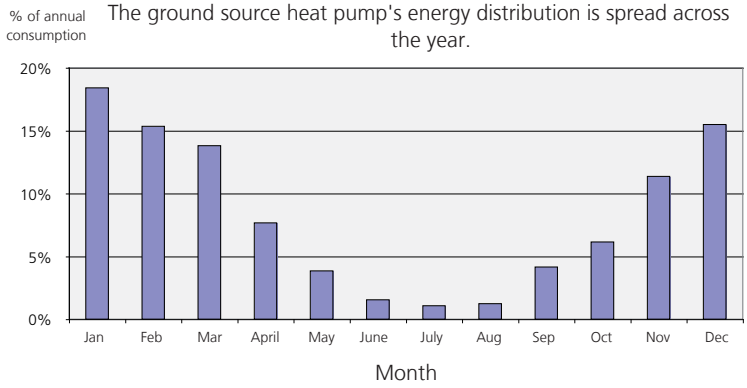
Your heat pump installation produces heat and hot water. This occurs via the control settings you made.

Factors that affect the energy consumption are, for example, indoor temperature, hot water consumption, the insulation level of the house and whether the house has many large window surfaces. The position of the house, e.g. wind exposure is also an affecting factor.

Also remember:

- Open the thermostat valves completely (except in the rooms that are to be kept cooler for various reasons, e.g. bedrooms). The thermostats slow the flow in the heating system, which the heat pump wants to compensate with increased temperatures. It then works harder and consumes more electrical energy.
- You can lower the temperature when away from the house by scheduling "holiday setting" in menu 4.7. See page 60 for instructions.
- If you activate "Hot water Economy", less energy is used.

Power consumption



Increasing the indoor temperature one degree increases power consumption by approx. 5%.

Domestic electricity

In the past it has been calculated that an average Swedish household uses approx. 5000 kWh domestic electricity/year. In today's society it is usually between 6000-12.000 kWh/year.

Equipment	Normal Output (W)		Approximate annual consumption (kWh)
	Operation	Standby	
Flat-screen TV (Operation: 5 h/day, Standby: 19 h/day)	200	2	380
Digital box (Operation: 5 h/day, Standby: 19 h/day)	11	10	90
DVD (Operation: 2 h/week)	15	5	45
TV games console (Operation: 6 h/week)	160	2	67
Radio/stereo (Operation: 3 h/day)	40	1	50
Computer incl. screen (Operation: 3 h/day, standby 21 h/day)	100	2	120
Bulb (Operation 8 h/day)	60	-	175

Equipment	Normal Output (W)		Approx-imate annual con-sump-tion (kWh)
Spot light, Halogen (Operation 8 h/day)	20	-	55
Cooling (Operation: 24 h/day)	100	-	165
Freezer (Operation: 24 h/day)	120	-	380
Oven, hob (Operation: 40 min/day)	1500	-	365
Oven, hob (Operation: 2 h/week)	3000	-	310
Dishwasher, cold water connection (Operation 1 time/day)	2000	-	730
Washing machine (Operation: 1 time/day)	2000	-	730
Tumble drier (Operation: 1 time/day)	2000	-	730
Vacuum cleaner (Operation: 2 h/week)	1000	-	100
Engine block heater (Operation: 1 h/day, 4 months a year)	400	-	50
Passenger compartment heater (Operation: 1 h/day, 4 months a year)	800	-	100

These values are approximate example values.

Example: A family with 2 children live in a house with 1 flat-screen TV, 1 digital box, 1 DVD player, 1 TV games console, 2 computers, 3 stereos, 2 bulbs in the WC, 2 bulbs in the bathroom, 4 bulbs in the kitchen, 3 bulbs outside, a washing machine, tumble drier, fridge, freezer, oven, vacuum cleaner, engine block heater = 6240 kWh domestic electricity/year

Energy meter

Check the accommodation's energy meter regularly, preferably once a month. This will indicate any changes in power consumption.

Newly built houses usually have twin energy meters, use the difference to calculate your domestic electricity.

New builds

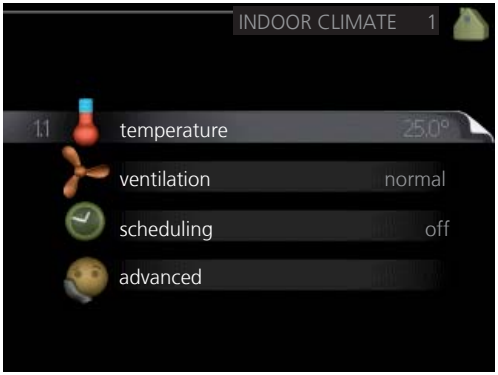
Newly built houses undergo a drying out process for a year. The house can then consume significantly more energy than it would thereafter. After 1-2 years the heating curve should be adjusted again, as well as the heating curve

offset and the building's thermostat valves, because the heating system, as a rule, requires a lower temperature once the drying process is complete.

3 F1245 – at your service

Set the indoor climate

Overview



Sub-menus

For the menu INDOOR CLIMATE there are several sub-menus. Status information for the relevant menu can be found on the display to the right of the menus.

temperature Setting the temperature for the climate system. The status information shows the set values for the climate system. Tab for cooling system is only displayed if accessory for cooling are present or if the heat pump has the integrated cooling function.

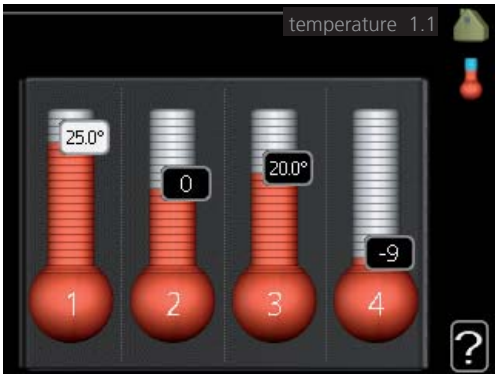
ventilation Setting the fan speed. The status information shows the selected setting. This menu is only displayed if the exhaust air module is connected (accessory).

scheduling Scheduling heating, cooling and ventilation. Status information "set" is displayed if you set a schedule but it is not active now, "holiday setting" is displayed if the vacation schedule is active at the same time as the schedule (the vacation function is prioritised), "active" displays if any part of the schedule is active, otherwise it displays " off".

advanced Setting of heat curve, adjusting with external contact, minimum value of supply temperature, room sensor and cooling function.

Menu 1.1

temperature



If the house has several climate systems, this is indicated on the display by a thermometer for each system.

If the heat pump has an accessory for cooling or integrated cooling function this is shown in the display with an extra tab.

Set the temperature (with room sensors installed and activated):

Setting range: 5 - 30 °C

Default value: 22

The value in the display appears as a temperature in °C if the heating system is controlled by a room sensor.

To change the room temperature, use the control knob to set the desired temperature in the display. Confirm the new setting by pressing the OK button. The new temperature is shown on the right-hand side of the symbol in the display.

Setting the temperature (without room sensors activated):

Setting range: -10 to +10

Default value: 0

The display shows the set values for heating (curve offset). To increase or reduce the indoor temperature, increase or reduce the value on the display.

Use the control knob to set a new value. Confirm the new setting by pressing the OK button.

The number of steps the value has to be changed to achieve a degree change of the indoor temperature depends on the heating unit. One step for under floor heating whilst radiators may require three.

Setting the desired value. The new value is shown on the right-hand side of the symbol in the display.

Caution

An increase in the room temperature can be slowed by the thermostats for the radiators or under floor heating. Therefore, open the thermostat valves fully, except in those rooms where a cooler temperature is required, e.g. bedrooms.

TIP

Wait 24 hours before making a new setting, so that the room temperature has time to stabilise.

If it is cold outdoors and the room temperature is too low, increase the curve slope in menu 1.9.1 by one increment.

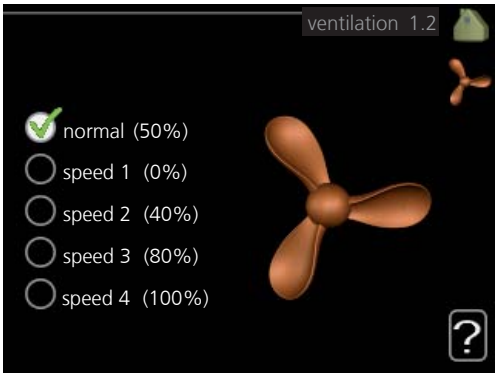
If it is cold outdoors and the room temperature is too high, lower the curve slope menu 1.9.1 by one increment.

If it is warm outdoors and the room temperature is too low, increase the value in menu 1.1 by one increment.

If it is warm outdoors and the room temperature is too high, reduce the value in menu 1.1 by one increment.

Menu 1.2

ventilation (accessory required)



Setting range: normal and speed 1-4

Default value: normal

The ventilation in the accommodation can be temporarily increased or reduced here.

When you have selected a new speed a clock starts a count down. When the time has counted down the ventilation speed returns to the normal setting.

If necessary, the different return times can be changed in menu 1.9.6.

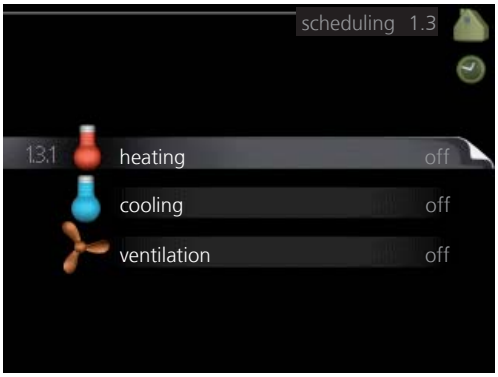
The fan speed is shown in brackets (in percent) after each speed alternative.

TIP

If longer time changes are required use the holiday function or scheduling.

Menu 1.3

scheduling



In the menu scheduling indoor climate (heating/cooling/ventilation) is scheduled for each weekday.

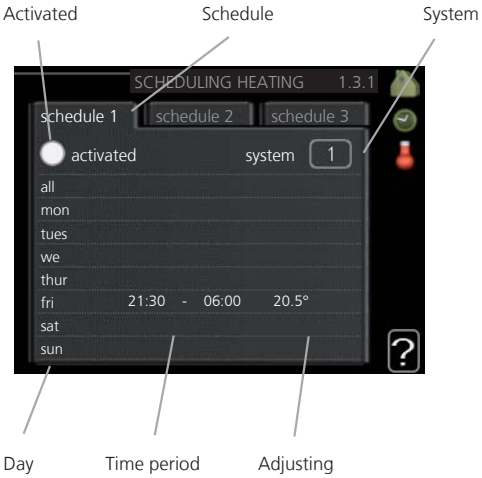
You can also schedule a longer period during a selected period (vacation) in menu 4.7.

Menu 1.3.1

heating

Increases or decreases in the accommodation temperature can be scheduled here for up to three time periods per day. If a room sensor is installed and activated the desired room temperature (°C) is set during the time period. Without an activated room sensor the desired change is set (of setting in menu 1.1). A one degree change in room temperature requires one increment for under floor heating and approximately two to three increments for the radiator system.

If two settings conflict with each other a red exclamation mark is displayed at the end of the line.



Schedule: The schedule to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

System: Which climate system the schedule is for is selected here. This alternative is only displayed if more than one climate system is present.

Day: Select which day or days of the week the schedule is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start and stop time for the selected day for scheduling are selected here.

Adjusting: How much the heating curve is to be offset in relation to menu 1.1 during scheduling is set here. If the rooms sensor is installed the desired room temperature is set in °C.

TIP

If you wish to set similar scheduling for every day of the week start by filling in "all" and then changing the desired days.

Caution

If the stop time is before the start time it means that the period extends past midnight.

Scheduling always starts on the date that the start time is set for.

Caution

Changes of temperature in accommodation take time. For example, short time periods in combination with underfloor heating will not give a noticeable difference in room temperature.

Menu 1.3.2

cooling (accessory required)

Here you can schedule when cooling is permitted in the accommodation for up to two different time periods per day.

If two settings conflict with each other a red exclamation mark is displayed at the end of the line.

Schedule: The schedule to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

Day: Select which day or days of the week the schedule is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start and stop time for the selected day for scheduling are selected here.

Adjusting: Whether or not cooling is permitted during scheduling is set here.

TIP

If you wish to set similar scheduling for every day of the week start by filling in "all" and then changing the desired days.

Caution

If the stop time is before the start time it means that the period extends past midnight.

Scheduling always starts on the date that the start time is set for.

Menu
1.3.3

ventilation (accessory required)

Increases or decreases in the ventilation to the accommodation can be scheduled here for up to two time periods per day.

If two settings conflict with each other a red exclamation mark is displayed at the end of the line.

Schedule: The schedule to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

Day: Select which day or days of the week the schedule is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start and stop time for the selected day for scheduling are selected here.

Adjusting: The desired fan speed is set here.

TIP

If you wish to set similar scheduling for every day of the week start by filling in "all" and then changing the desired days.

Caution

If the stop time is before the start time it means that the period extends past midnight.

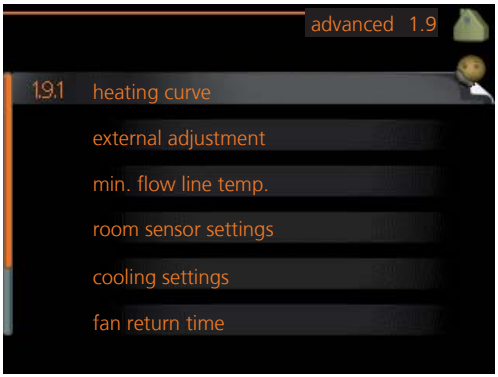
Scheduling always starts on the date that the start time is set for.

Caution

A significant change over a longer period of time may cause poor indoor environment and worse operating economy.

Menu 1.9

advanced



Menu advanced has orange text and is intended for the advanced user. This menu has several sub-menus.

heating curve Setting the heating curve slope.

external adjustment Setting the heat curve slope when the outer contact is connected. The menu is only displayed when the function is selected in menu 5.4.

min. flow line temp. Setting minimum permitted flow line temperature.

room sensor settings Settings regarding the room sensor.

cooling settings Settings for cooling.

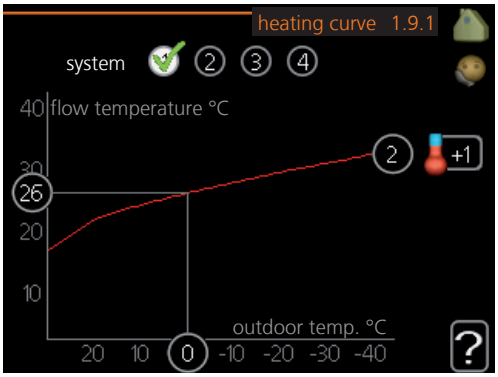
fan return time Fan return time settings in the event of temporary ventilation speed change.

own curve Setting own heat curve.

point offset Setting the offset of the heating curve at a specific outdoor temperature.

Menu 1.9.1

heating curve

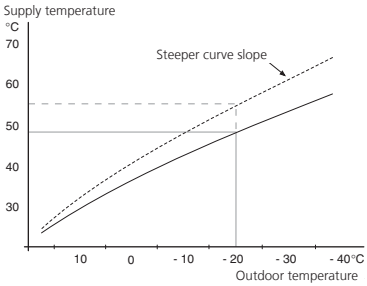


heating curve

Setting range: 0 - 15

Default value: 9

In the menu heating curve the so-called heating curve for your house can be viewed. The task of the heating curve is to give an even indoor temperature, regardless of the outdoor temperature, and thereby energy efficient operation. It is from this heating curve that the heat pump's control computer determines the temperature of the water to the heating system, flow line temperature, and therefore the indoor temperature. You can select heating curve and read off how the flow line temperature changes at different outdoor temperatures here.



Curve coefficient

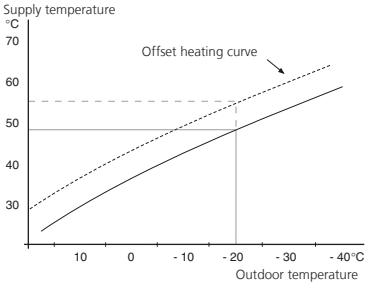
The slope of the heating curve indicates how many degrees the supply temperature is to be increased/reduced when the outdoor temperature drops/increases. A steeper slope means a higher supply temperature at a certain outdoor temperature.

The optimum slope depends on the climate conditions in your location, if the house has radiators or under floor heating and how well insulated the house is.

The heating curve is set when the heating installation is installed, but may need adjusting later. Thereafter the heating curve should not need further adjustment.

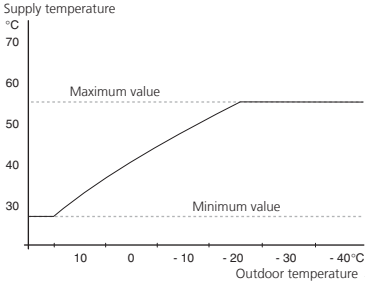
Caution

In the event of making fine adjustments for the indoor temperature, the heat curve must be offset up or down instead, this is done in menu 1.1 temperature .



Curve offset

An offset of the heating curve means that the supply temperature changes as much for all the outdoor temperatures, e.g. that a curve offset of +2 steps increases the supply temperature by 5 °C at all outdoor temperatures.



Flow line temperature– maximum and minimum values

Because the flow line temperature cannot be higher than the set maximum value or lower than the set minimum value the heating curve flattens out at these temperatures.

Caution

Underfloor heating systems are normally max flow line temperature set between 35 and 45 °C.

Check the max temperature for your floor with your floor supplier.

The figure at the end of the curve indicates the curve slope. The figure beside the thermometer gives the curve offset. Use the control knob to set a new value. Confirm the new setting by pressing the OK button.

Curve 0 is an own heating curve created in menu 1.9.7.

To select another heat curve (slope):

NOTE

If you only have one heating system, the number of the curve is already marked when the menu window opens.

1. Select the system (if more than one) for which the heat curve is to be changed.
2. When the system selection has been confirmed the heat curve number is marked.
3. Press the OK button to access the setting mode
4. Select a new heating curve. The heat curves are numbered from 0 to 15, the greater the number, the steeper the slope and the greater the supply temperature. Heating curve 0 means that own curve (menu 1.9.7) is used.
5. Press the OK button to exit the setting.

To read off a heating curve:

1. Turn the control knob so that the ring on the shaft with the outdoor temperature is marked.
2. Press the OK button.
3. Follow the grey line up to the heat curve and out to the left to read off the value for the supply temperature at the selected outdoor temperature.
4. You can now select to take read outs for different outdoor temperatures by turning the control knob to the right or left and read off the corresponding flow temperature.
5. Press the OK or Back button to exit read off mode.

TIP

Wait 24 hours before making a new setting, so that the room temperature has time to stabilise.

If it is cold outdoors and the room temperature is too low, increase the curve slope by one increment.

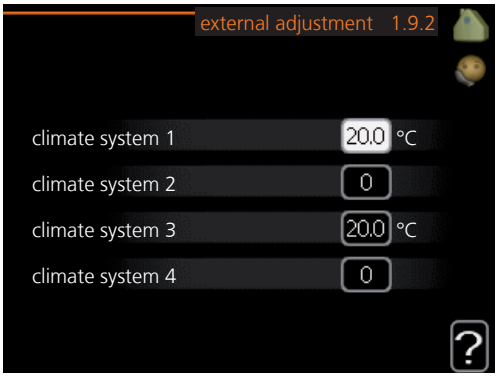
If it is cold outdoors and the room temperature is too high, lower the curve slope by one increment.

If it is warm outdoors and the room temperature is too low, increase the curve offset by one increment.

If it is warm outdoors and the room temperature is too high, lower the curve offset by one increment.

Menu
1.9.2

external adjustment



climate system

Setting range: -10 to +10 or desired room temperature if the room sensor is installed.

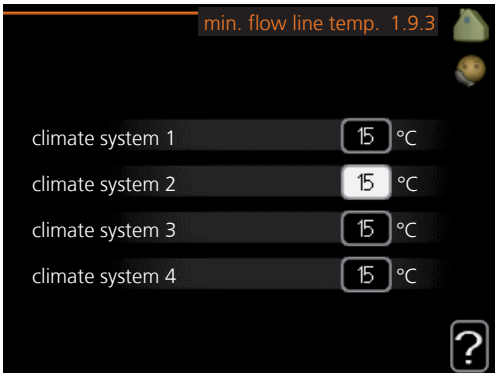
Default value: 0

Connecting an external contact, for example, a room thermostat or a timer allows you to temporarily or periodically raise or lower the room temperature. When the contact is on, the heat curve offset is changed by the number of steps selected in the menu. If a room sensor is installed and activated the desired room temperature (°C) is set.

If there is more than one climate system the setting can be made separately for each system.

Menu
1.9.3

min. flow line temp.



climate system

Setting range: 15 – 50 °C

Default value: 15 °C

Set the minimum temperature on the supply temperature to the climate system. This means that F1245 never calculates a temperature lower than that set here.

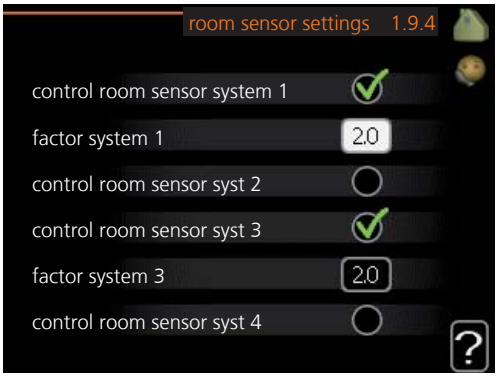
If there is more than one climate system the setting can be made separately for each system.

TIP

The value can be increased if you have, for example, a cellar that you always want to heat, even in summer.

Menu
1.9.4

room sensor settings



factor system

Setting range: 0.2 - 3.0

Default value: 2.0

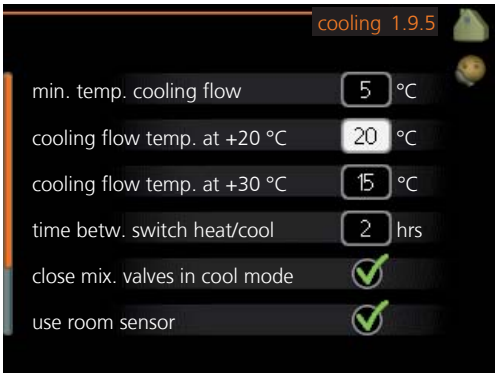
Room sensors to control the room temperature can be activated here.

Here you can set a factor that determines how much the supply temperature is to be affected by the difference between the desired room temperature and the actual room temperature. A higher value gives a greater change of the heat curve offset.

If several climate systems are installed the above settings can be made for the relevant systems.

Menu 1.9.5

cooling settings (accessory required)



min. temp. cooling flow

Setting range: 5 - 50 °C

Default value: 10

cooling flow temp. at +20 °C

Setting range: 5 - 50 °C

Default value: 20

cooling flow temp. at +30 °C

Setting range: 5 - 50 °C

Default value: 15

time betw. switch heat/cool

Setting range: 0 - 48 h

Default value: 2

heat at room under temp.

Setting range: 0.5 - 10.0 °C

Default value: 1.0

cool at room over temp.

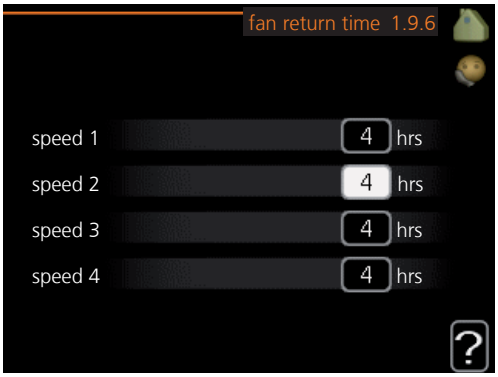
Setting range: 0.5 - 10.0 °C

Default value: 1.0

You can use F1245 to cool the house during hot periods.

Menu
1.9.6

fan return time (accessory required)



speed 1-4

Setting range: 1 – 99 h

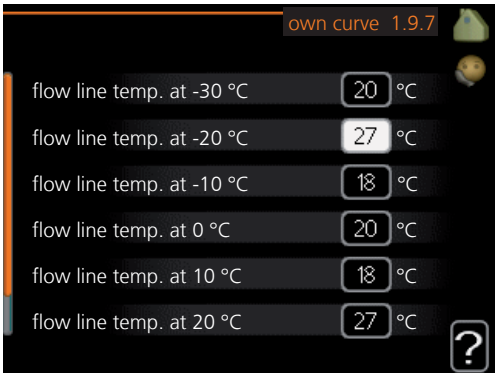
Default value: 4 h

Here you select the return time for temporary speed change (speed 1-4) on the ventilation in menu 1.2.

Return time is the time it takes before ventilation speed returns to normal.

Menu
1.9.7

own curve



supply temperature

Setting range: 15 – 70 °C

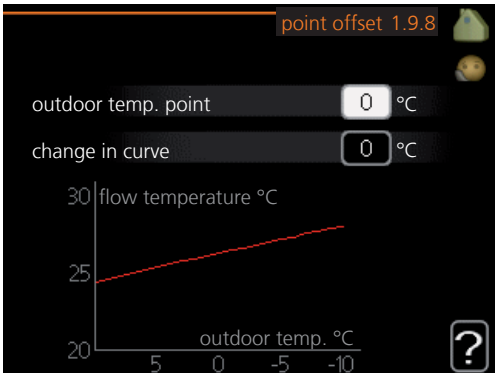
You can create your own heating curve here, if there are special requirements, by setting the desired supply temperatures for different outdoor temperatures.

Caution

Curve 0 in menu 1.9.1 must be selected for this curve to apply.

Menu
1.9.8

point offset



outdoor temp. point

Setting range: -40 – 30 °C

Default value: 0 °C

change in curve

Setting range: -10 – 10 °C

Default value: 0 °C

Select a change in the heating curve at a certain outdoor temperature here. A one degree change in room temperature requires one increment for underfloor heating and approximately two to three increments for the radiator system.

The heat curve is affected at ± 5 °C from set outdoor temp. point.

It is important that the correct heating curve is selected so that the room temperature is experienced as even.

TIP

If it is cold in the house, at, for example -2 °C, "outdoor temp. point" is set to "-2" and "change in curve" is increased until the desired room temperature is maintained.

Caution

Wait 24 hours before making a new setting, so that the room temperature has time to stabilise.

Set the hot water capacity

Overview

Sub-menus

For the menu HOT WATER there are several sub-menus. Status information for the relevant menu can be found on the display to the right of the menus.

temporary lux Activation of temporary increase in the hot water temperature. Status information displays “off" or what length of time of the temporary temperature increase remains.

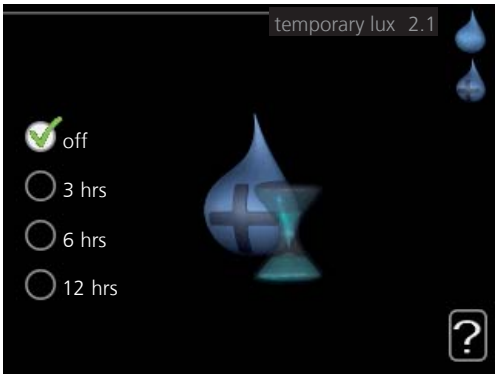
comfort mode Setting hot water comfort. The status information displays what mode is selected, "economy", "normal" or "luxury".

scheduling Scheduling hot water comfort. Status information "set" displays if any part of the schedule is active at present, "holiday setting" displays if vacation setting is in progress (menu 4.7), otherwise it displays "off".

advanced Setting periodic increase in the hot water temperature.

Menu 2.1

temporary lux



Setting range: 3, 6 and 12 hours and mode "off"

Default value: "off"

When hot water requirement has temporarily increased this menu can be used to select an increase in the hot water temperature to lux mode for a selectable time.

Caution

If comfort mode "luxury" is selected in menu 2.2 no further increase can be carried out.

The function is activated immediately when a time period is selected and confirmed using the OK button. The time to the right displays the remaining time at the selected setting.

When the time has run out F1245 returns to the mode set in menu 2.2.

Select "off" to switch off temporary lux.

Menu 2.2

comfort mode

Setting range: economy, normal, luxury

Default value: normal

The difference between the selectable modes is the temperature of the hot tap water. Higher temperature means that the hot water lasts longer.

economy: This mode gives less hot water than the other, but is more economical. This mode can be used in smaller households with a small hot water requirement.

normal: Normal mode gives a larger amount of hot water and is suitable for most households.

luxury: Lux mode gives the greatest possible amount of hot water. In this mode the immersion heater may be partially used to heat hot water, which may increase operating costs.

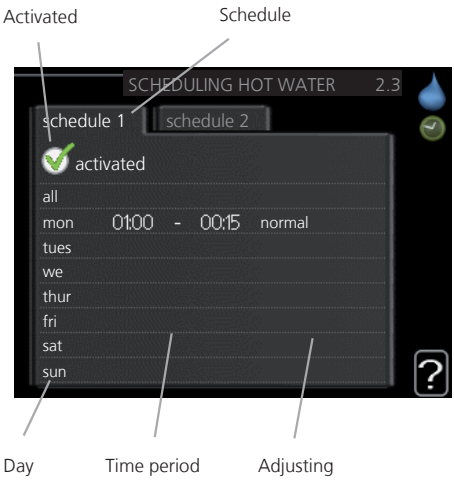
Menu 2.3

scheduling

What hot water mode the heat pump is to work with can be scheduled here for up to two different time periods per day.

Scheduling is activated/deactivated by ticking/unticking "activated". Set times are not affected at deactivation.

If two settings conflict with each other a red exclamation mark is displayed.



Schedule: The schedule to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

Day: Select which day or days of the week the schedule is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start and stop time for the selected day for scheduling are selected here.

Adjusting: Set the hot water mode that is to apply during scheduling here.

TIP

If you wish to set similar scheduling for every day of the week start by filling in "all" and then changing the desired days.

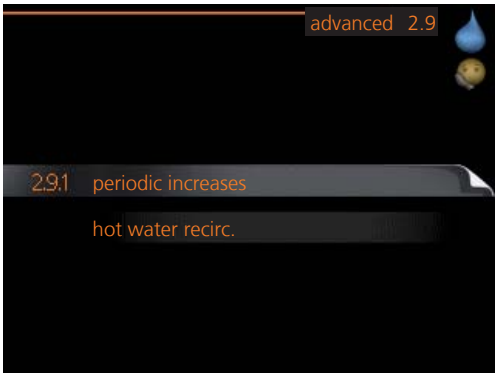
Caution

If the stop time is before the start time it means that the period extends past midnight.

Scheduling always starts on the date that the start time is set for.

Menu 2.9

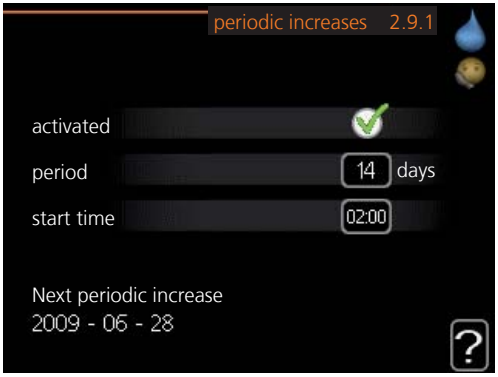
advanced



Menu advanced has orange text and is intended for the advanced user. This menu has several sub-menus.

Menu 2.9.1

periodic increases



period

Setting range: 1 - 90 days

Default value: 14 days

start time

Setting range: 00:00 - 23:00

Default value: 02:00

To prevent bacterial growth in the heater, the compressor and the immersion heater can increase hot water temperature at regular intervals.

The length of time between increases can be selected here. The time can be set between 1 and 90 days. Factory setting is 14 days. Untick "activated" to switch off the function.

Menu 2.9.2

hot water recirc. (accessory required)

operating time

Setting range: 1 - 60 min

Default value: 3 min

downtime

Setting range: 0 - 60 min

Default value: 12 min

Set the hot water circulation for up to three periods per day here. During the set periods the hot water circulation pump will run according to the settings above.

"operating time" decide how long the hot water circulation pump must run per operating instance.

"downtime" decide how long the hot water circulation pump must be stationary between operating instances.

Get information

Overview

Sub-menus

For the menu INFO there are several sub-menus. No settings can be made in these menus, it is just display of information. Status information for the relevant menu can be found on the display to the right of the menus.

service info shows temperature levels and settings in the heat pump.

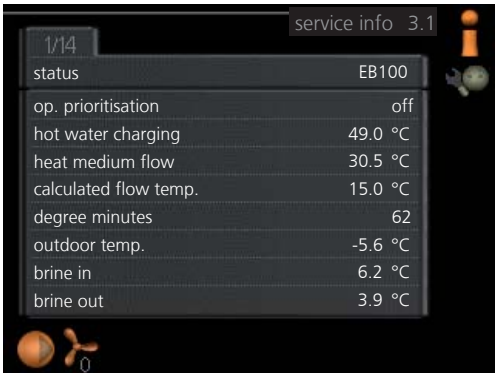
compressor info shows operating times, number of starts etc for the compressor.

add. heat info displays information about the addition's operating times etc.

alarm log displays the latest alarm and information about the heat pump when the alarm occurred.

Menu 3.1

service info



Information about the heat pump's actual operating status (e.g. current temperatures etc.) can be obtained here. No changes can be made.

The information is on several pages. Turn the control knob to scroll between the pages.

Symbols in this menu:

Compressor

Addition

Brine pump (blue)

Heating medium pump (orange)

Hot water

Heating

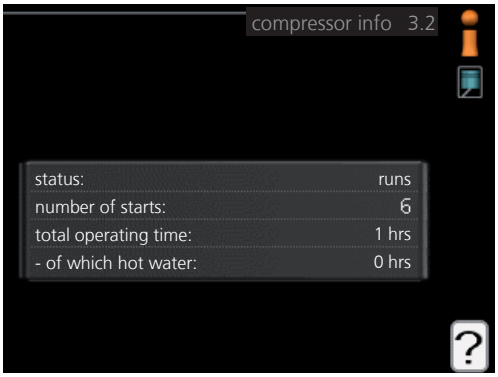
Cooling

Pool

Ventilation

Menu 3.2

compressor info

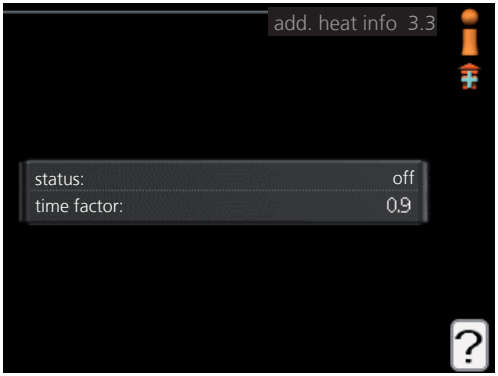


Information about the compressor's operating status and statistics can be obtained here. No changes can be made.

The information is on several pages. Turn the control knob to scroll between the pages.

Menu 3.3

add. heat info

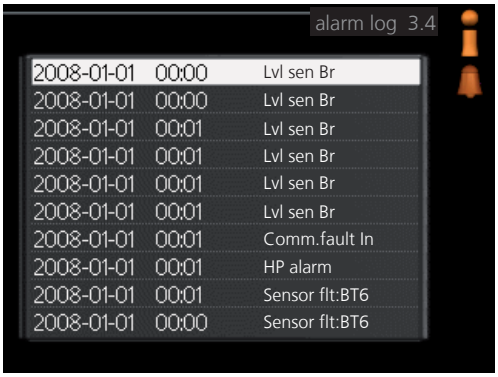


Information about the additional heat settings, operating status and statistics can be obtained here. No changes can be made.

The information is on several pages. Turn the control knob to scroll between the pages.

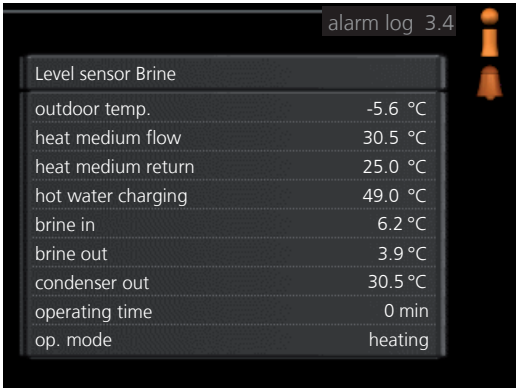
Menu 3.4

alarm log



To facilitate fault-finding the heat pump operating status at alarm alerts is stored here. You can see information for the 10 most recent alarms.

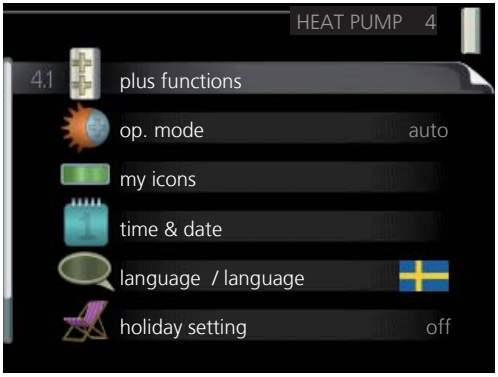
To view the run status in the event of an alarm, mark the alarm and press the OK button.


alarm log 3.4
Level sensor Brine
outdoor temp. -5.6 °C
heat medium flow 30.5 °C
heat medium return 25.0 °C
hot water charging 49.0 °C
brine in 6.2 °C
brine out 3.9 °C
condenser out 30.5 °C
operating time 0 min
op. mode heating

Information about an alarm.

Adjust the heat pump

Overview



Sub-menus

For the menu HEAT PUMP there are several sub-menus. Status information for the relevant menu can be found on the display to the right of the menus.

plus functions Settings applying to any installed extra functions in the heating system.

op. mode Activation of manual or automatic operating mode. The status information shows the selected operating mode.

my icons Settings regarding which icons in the heat pump's user interface that are to appear in the slot when the door is closed.

time & date Setting current time and date.

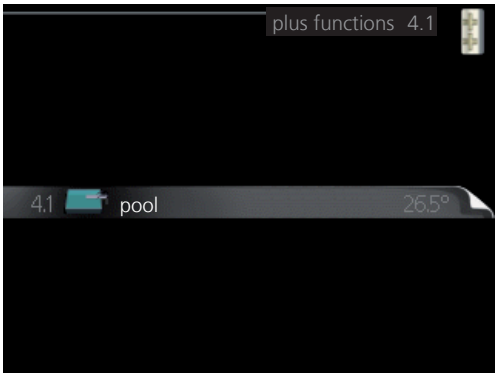
language Select the language for the display here. The status information shows the selected language.

holiday setting Vacation scheduling heating, cooling and ventilation. Status information "set" is displayed if you set a vacation schedule but it is not active now, "active" displays if any part of the vacation schedule is active, otherwise it displays " off".

advanced Setting heat pump work mode.

Menu 4.1

plus functions



Settings for any additional functions installed in the heating system can be made in the sub menus.

Menu 4.1.1

pool (accessory required)

start temp

Setting range: 15.0 - 70.0 °C

Default value: 22.0 °C

stop temperature

Setting range: 15.0 - 70.0 °C

Default value: 24.0 °C

Select whether the pool control is to be activated and within what temperatures (start and stop temperature) pool heating must occur.

When the pool temperature drops below the set start temperature and there is no hot water or heating requirement, F1245 starts pool heating.

Untick "activated" to switch off the pool heating.

Caution

The start temperature cannot be set to a value that is higher than the stop temperature.

Menu 4.2

op. mode

op. mode

Setting range: auto, manual, add. heat only

Default value: auto

functions

Setting range: compressor, addition, heating, cooling

The heat pump operating mode is usually set to "auto". It is also possible to set the heat pump to "add. heat only", but only when an addition is used, or "manual" and select yourself what functions are to be permitted.

Change the operating mode by marking the desired mode and pressing the OK button. When an operating mode is selected it shows what in the heat pump is permitted (crossed out = not permitted) and selectable alternatives to the right. To select selectable functions that are permitted or not you mark the function using the control knob and press the OK button.

Operating mode auto

In this operating mode you cannot select which functions are to be permitted or not because it is handled automatically by the heat pump.

Operating mode manual

In this operating mode you can select what functions are permitted or not. You cannot deselect "compressor" in manual mode.

Operating mode add. heat only

Caution

If you choose mode "add. heat only" the compressor is deselected and there is a higher operating cost.

In this operating mode the compressor is not active and only additional heat is used. You can also choose to deactivate heating or cooling (only if accessory for cooling is available or if the heat pump has an integrated cooling function).

Functions

"**compressor**" is that which produces heating and hot water for the accommodation. You cannot deselect "compressor" in manual mode. If "compressor" is deselected, a symbol in the main menu on the heat pump symbol is displayed.

"**addition**" is what helps the compressor to heat the accommodation and/or the hot water when it cannot manage the whole requirement alone.

"**heating**" means that you get heat in the accommodation. You can deselect the function when you do not wish to have heating running.

"**cooling**" means that you get cooling in the accommodation in hot weather. You can deselect the function when you do not wish to have the cooling running. This alternative requires an accessory for cooling or if the heat pump has a built in function for cooling.

Caution

If you deselect "addition" it may mean that sufficient cooling in the accommodation is not achieved.

Menu 4.3

my icons

You can select what icon should be visible when the door to F1245 is closed. You can select up to 3 icons. If you select more, the ones you selected first will disappear. The icons are displayed in the order you selected them.

Menu 4.4

time & date

Set time and date and display mode here.

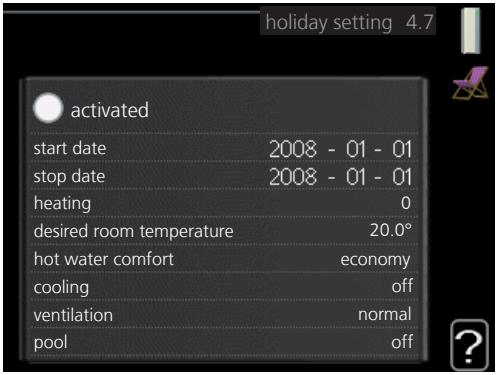
Menu 4.6

language

Choose the language that you want the information to be displayed in here.

Menu 4.7

holiday setting



To reduce energy consumption during a holiday you can schedule a reduction in heating and hot water temperature. Cooling, ventilation and pool can also be scheduled if the functions are connected.

If a room sensor is installed and activated the desired room temperature (°C) is set during the time period. This setting applies to all climate systems with room sensors.

If a room sensor is not activated, the desired offset of the heat curve is set. This setting applies to all climate systems without room sensors. A one degree change in room temperature requires one increment for under floor heating and approximately two to three increments for the radiator system.

Vacation scheduling starts at 00:00 on the start date and stops at 23:59 on the stop date.

TIP

Complete holiday setting about a day before your return so that room temperature and hot water have time to regain usual levels.

TIP

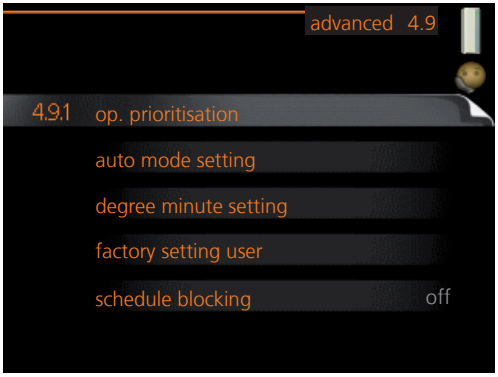
Set the vacation setting in advance and activate just before departure in order to maintain the comfort.

Caution

If you choose to switch off hot water production during the vacation "periodic increases" (preventing bacterial growth) are blocked during this time. "periodic increases" started in conjunction with the vacation setting being completed.

Menu 4.9

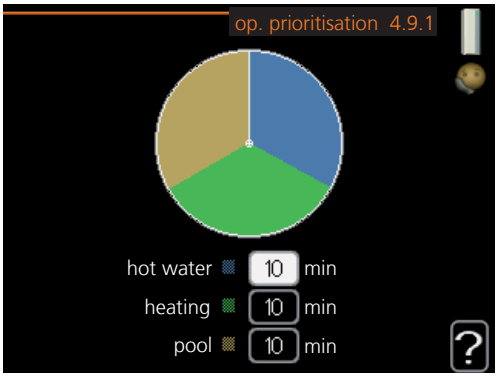
advanced



Menu advanced has orange text and is intended for the advanced user. This menu has several sub-menus.

Menu
4.9.1

op. prioritisation



op. prioritisation

Setting range: 0 to 180

Default value: 20

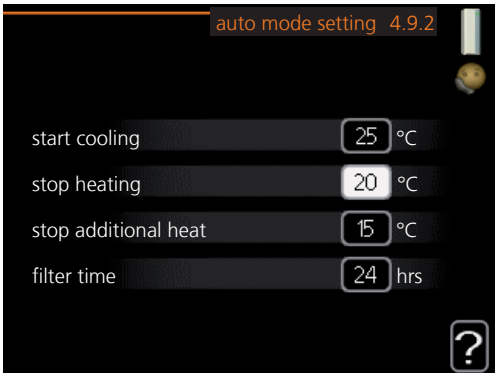
Choose here how long the heat pump should work with each requirement if there are two or more requirements at the same time. If there is only one requirement the heat pump only works with that requirement.

The indicator marks where in the cycle the heat pump is.

If 0 minutes is selected it means that requirement is not prioritised, but will only be activated when there is no other requirement.

Menu
4.9.2

auto mode setting



start cooling

Setting range: -20 – 40 °C

Default value: 25

stop heating

Setting range: -20 – 40 °C

Default value: 20

stop additional heat

Setting range: -20 – 40 °C

Default value: 15

filter time

Setting range: 0 – 48 h

Default value: 24 h

When operating mode is set to "auto" the heat pump selects when start and stop of additional heat and heat production is permitted, dependent on the average outdoor temperature. If you have accessories for cooling production installed you can also select start temperature for cooling.

Select the average outdoor temperatures in this menu.

You can also set the time over which (filter time) the average temperature is calculated. If you select 0, the present outdoor temperature is used.

Caution

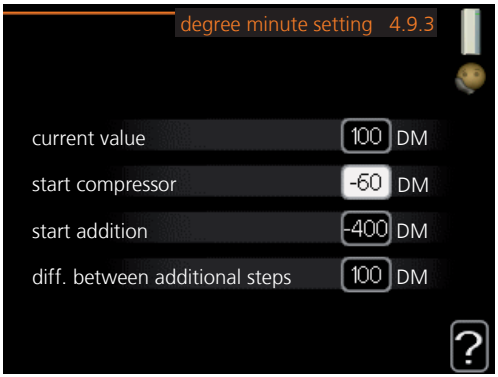
"stop additional heat" cannot be set higher than "stop heating".

Caution

In systems where heating and cooling share the same pipes "stop heating" cannot be set higher than "start cooling".

Menu 4.9.3

degree minute setting



current value

Setting range: -3000 – 3000

start compressor

Setting range: -1000 – -30

Default value: -60

start addition

Setting range: -2000 – -30

Default value: -400

diff. between additional steps

Setting range: 0 – 1000

Default value: 100

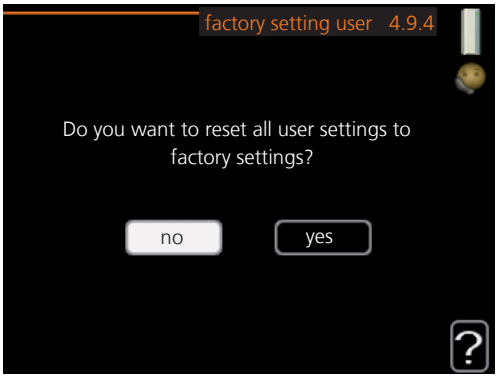
Degree minutes are a measurement of the current heating requirement in the house and determine when the compressor respectively additional heat will start/stop.

Caution

Higher value on "start compressor" gives more compressor starts, which increases wear in the compressor. Too low value can give uneven indoor temperatures.

Menu 4.9.4

factory setting user



All settings that are available to the user (including advanced menus) can be reset to default values here.

Caution

After default setting, personal settings such as heat curves must be reset.

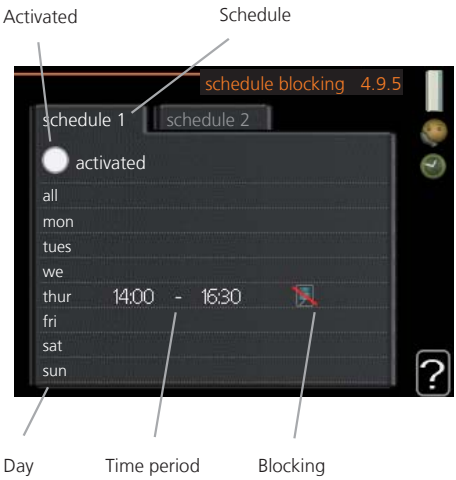
Menu 4.9.5

schedule blocking

The compressor can be scheduled to be blocked for up to two different time periods here.

If two settings conflict with each other a red exclamation mark is displayed at the end of the line.

When scheduling is active the actual blocking symbol in the main menu on the heat pump symbol is displayed.



Schedule: The period to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

Day: Select which day or days of the week the schedule is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start and stop time for the selected day for scheduling are selected here.

Blocking: The desired blocking is selected here.

Blocking the compressor.

Blocking additional heat.

TIP

If you wish to set similar scheduling for every day of the week start by filling in "all" and then changing the desired days.

Caution

If the stop time is before the start time it means that the period extends past midnight.

Scheduling always starts on the date that the start time is set for.

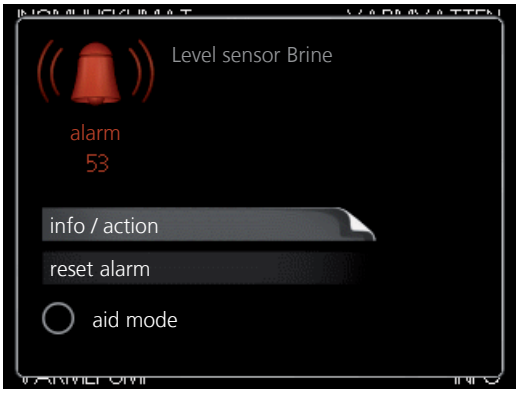
Caution

Long term blocking can cause reduced comfort and operating economy.

4 Disturbances in comfort

In most cases, the heat pump notes operational interference and indicates this with alarms and shows instructions in the display. See page 68 for information about managing alarms. If the malfunction does not appear in the display, or if the display is not lit, the following troubleshooting guide can be used.

Manage alarm



In the event of an alarm, some kind of malfunction has occurred, which is indicated by the status lamp changing from green continuously to red continuously. In addition, an alarm bell appears in the information window.

Alarm

In the event of an alarm with a red status lamp a malfunction has occurred that the heat pump cannot remedy itself. In the display, by turning the control knob and pressing the OK button, you can see the type of alarm it is and reset it. You can also choose to set the heat pump to aid mode.

info / action Here you can read what the alarm means and receive tips on what you can do to correct the problem that caused the alarm.

reset alarm In most cases it is enough to select "reset alarm" to correct the problem that caused the alarm. If a green light illuminates after selecting "reset alarm" the alarm has been remedied. If a red light is still visible and a menu called "alarm" is visible in the display, the problem that caused the alarm remains. If the alarm disappears and then returns, contact your installer.

aid mode "aid mode" is a type of emergency mode. This means that the heat pump produces heat and/or hot water despite there being some kind of problem. This can mean that the heat pump's compressor is not running. In this case the immersion heater produces heat and/or hot water.

Selecting "aid mode" is not the same as correcting the problem that caused the alarm. The status lamp will therefore continue to be red.

If the alarm does not reset, contact your installer for suitable remedial action.

NOTE

Always gives the heat pump's serial number when contacting your installer.

Troubleshooting

If the operational interference is not shown in the display the following tips can be used:

Basic actions

Start by checking the following possible fault sources:

- The switch's position.
- Group and main fuses of the accommodation.
- The property's earth circuit breaker.

Low hot water temperature or a lack of hot water

- Heat pump in incorrect operating mode.
  - If mode "manual" is selected, select "addition".
- Large hot water consumption.
  - Wait until the hot water has heated up. Temporarily increased hot water capacity (temporary lux) can be activated in menu 2.1.
- Too low hot water setting.
  - Enter menu 2.2 and select a higher comfort mode.
- Too low or no operating prioritisation of hot water.
  - Enter menu 4.9.1 and increase the time for when hot water is to be prioritised.
- Closed or choked filling valve for the hot water heater.
  - Open the valve.

Low room temperature

- Closed thermostats in several rooms.
  - Set the thermostats to max in as many rooms as possible. Adjust the room temperature via menu 1.1 instead of choking the thermostats.
- Heat pump in incorrect operating mode.
  - Enter menu 4.2. If mode "auto" is selected, select a higher value on "stop heating" in menu 4.9.2.
  - If mode "manual" is selected, select "heating". If this is not enough, select "addition".
- Too low set value on the automatic heating control.
  - Enter menu 1.1 (temperature) and adjust the heat curve offset of the heat curve. If the room temperature is only low in cold weather the curve slope in the menu 1.9.1 (heating curve) needs to be adjusted up.
- Too low or no operating prioritisation of heat.
  - Enter menu 4.9.1 and increase the time for when heating is to be prioritised.
- Holiday mode activated in menu 1.3.4.
  - Enter menu 1.3.4 and select "Off".
- External switch for changing the room heating activated.
  - Check any external switches.
- Air in the climate system.
  - Vent the climate system.
- Closed valves to the climate system.
  - Open the valves.

High room temperature

- Too high set value on the automatic heating control.
  - Enter menu 1.1 (temperature) and adjust the heat curve offset downwards. If the room temperature is only high in cold weather the curve slope in menu 1.9.1 (heating curve) needs to be adjusted down.
- External switch for changing the room heating activated.
  - Check any external switches.

Low system pressure

- Not enough water in the climate system.

- Top up the water in the climate system .

Low or a lack of ventilation

This part of the fault-tracing chapter only applies if the NIBE FLM accessory is installed.

- Filter blocked.
  - Clean or replace filter.
- Exhaust air device blocked or throttled down too much.
  - Check and clean the exhaust air devices.
- Fan speed in reduced mode.
  - Enter menu 1.2 and select "normal".
- External switch for changing the fan speed activated.
  - Check any external switches.

High or distracting ventilation

This part of the fault-tracing chapter only applies if the NIBE FLM accessory is installed.

- The ventilation is not adjusted.
  - Order ventilation adjustment.
- Fan speed in forced mode.
  - Enter menu 1.2 and select "normal".
- External switch for changing the fan speed activated.
  - Check any external switches.
- Filter blocked.
  - Clean or replace the filter.

The compressor does not start

- There is no heating requirement.
  - The heat pump does not call on heating nor hot water.
- Minimum time between compressor starts has not been reached.
  - Wait 30 minutes and check if the compressor has started.
- Alarm tripped.
  - Follow the display instructions.

Gurgling sound

This part of the fault-tracing chapter only applies if the NIBE FLM accessory is installed.

- Not enough water in the water seal.
  - Fill the water seal with water.
- Choked water seal.
  - Check and adjust the condensation water hose.

Only additional heat

If you are unsuccessful in rectifying the fault and are unable to heat the house, you can, whilst waiting for assistance, continue running the heat pump in "add. heat only" mode. This means that the heat pump only uses the immersion heater to heat the house.

Set the heat pump to additional heat mode

1. Go to menu 4.2 op. mode.
2. Mark "add. heat only" using the control knob and then press the OK button.
3. Return to the main menus by pressing the Back button.

5 Technical data

Detailed technical specifications for this product can be found in the installation manual (www.nibe.eu).

6 Glossary

Brine

Anti-freeze liquid, e.g. ethanol or glycol mixed with water, which transports heat energy from the heat source (rock/ground/lake) to the heat pump.

Brine side

Brine hoses, any bore holes and the evaporator make up the brine side.

Calculated flow line temperature

The temperature that the heat pump calculates that the heating system requires for an optimum accommodation temperature. The colder the outdoor temperature, the higher the calculated supply temperature.

Charge coil

A charge coil heats the domestic hot water (tap water) in the heater with heating water.

Circulation pump

Pump that circulates liquid in a pipe system.

Climate system

The climate system can also be called the heating and/or cooling system. The building is cooled or heated using radiators, under floor coils or convector fans.

Coil tank

A heater with a coil in it. The water in the coil heats the water in the heater.

Collector

Hose where the brine circulates in a closed system between the heat source and the heat pump.

Compressor

Compresses the gas state refrigerant. When the refrigerant is compressed, the pressure and the temperature increase.

Condenser

Heat exchanger where the hot gas state refrigerant condenses (cooled and becomes a liquid) and releases heat energy to the house heating and hot water systems.

Convector

Works in the same way as a radiator, but with the difference that the air is blown out. This means that the convector can be used to heat or cool the accommodation.

COP

If it is stated that a heat pump has COP 5, this means, in principle that if you insert 10 pence, you will get 50 pence worth. It is the efficiency of the heat pump. This is measured at different measurement values, e.g.: 0/35 where 0 stands for how many degrees the temperature of the incoming brine is and 35 for how many degrees the supply temperature is.

Disturbances in comfort

Disturbances in comfort are undesirable changes to the hot water/indoor comfort, for example if the temperature of the hot water is too low or if the indoor temperature is not at the desired level.

A malfunction in the heat pump can sometimes be noticed in the form of a disturbance in comfort.

In most cases, the heat pump notes operational interference and indicates this with alarms and shows instructions in the display.

Domestic hot water

The water one showers in for example.

DUT, dimensioned outdoor temperature

The dimensioned outdoor temperature differs depending on where you live. The lower the dimensioned outdoor temperature, the lower the value should be selected on "selecting a heat curve".

Efficiency

A measurement of how effective the heat pump is. The higher the value is the better it is.

Electrical addition

This is electricity that, for example, an immersion heater uses as addition during the coldest days of the year to cover the heating demand that the heat pump cannot manage.

Emergency mode

A mode that can be selected using the switch in the event of a fault, which means that the compressor stops. When the heat pump is in emergency mode, the building and/or hot water is heated using an immersion heater.

Evaporator

Heat exchanger where the refrigerant evaporates by retrieving heat energy from the brine which then cools.

Expansion valve

Throttle valve that reduces the pressure of the refrigerant, whereupon the temperature of the refrigerant drops.

Expansion vessel

Vessel with brine or heating medium fluid with the task of equalising the pressure in the brine or heating medium system.

Fan convectors

A type of convector, but with auxiliary fan that blows hot or cold air into the accommodation.

Flow pipe

The line in which the heated water is transported from the heat pump out to the house heating system (radiators/heating coils).

Free cooling

The cold brine from the collector/borehole is used to cool the accommodation.

Heat exchanger

Device that transfers heat energy from one medium to another without mixing mediums.

Heat factor

Measurement of how much heat energy the heat pump gives off in relation to the electric energy it needs to operate. Another term for this is COP.

Heating curve

The heating curve determines which heat the heat pump is to produce depending on the temperature outdoors. If a high value is selected, this tells the heat pump that it must produce a lot of heat when it is cold outdoors in order to achieve a warm indoor temperature.

Heating medium

Hot liquid, usually normal water, which is sent from the heat pump to the house climate system and makes the accommodation warm. The heating medium also heats the hot water through the coil tank.

Heating medium side

Pipes to the house's climate system and condenser make up the heating medium side.

Hot water heater

Container where domestic water is heated. Is located inside the heat pump.

Level monitor

Accessory that senses the level in the level vessel and gives an alarm if it becomes too low.

Level vessel

Partially transparent vessel with brine with the task of equalising the pressure in the brine system. When the temperature of the brine increases or decreases, the pressure in the system changes and the level in the level vessel also changes.

Outside sensor

A sensor that is located outdoors. This sensor tells the heat pump how hot it is outdoors.

Passive cooling

See "Free cooling".

Pressostat

Pressure switch that triggers an alarm and/or stops the compressor if non-permitted pressures occur in the system. A high pressure pressostat trips if the condensing pressure is too great. A low pressure pressostat trips if the evaporation pressure is too low.

Radiator

Another word for heating element. They must be filled with water in order to be used with F1245.

Refrigerant

Substance that circulates around a closed circuit in the heat pump and that, through pressure changes, evaporates and condenses. During evaporation, the refrigerant absorbs heating energy and during condensing, gives off heating energy.

Return pipe

The line in which the water is transported back to the heat pump from the house heating system (radiators/heating coils).

Return temp

The temperature of the water that returns to the heat pump after releasing the heat energy to the radiators/heating coils.

Room sensor

A sensor that is located indoors. This sensor tells the heat pump how hot it is indoors.

Safety valve

A valve that opens and releases a small amount of liquid if the pressure is too high.

Shuttle valve

A valve that can send liquid in two directions. A shuttle valve that enables liquid to be sent to the heating system, when the heat pump produces heating for the house, and to the hot water heater, when the heat pump produces hot water.

Supply temperature

The temperature of the heated water that the heat pump sends out to the heating system. The colder the outdoor temperature, the higher the supply line temperature becomes.

7 Item register

A
Adjust the heat pump, 55

B
Back button, 11

C
Contact information, 5
Contact with F1245, 9
  Display unit, 10
  External information, 9
  Menu system, 12
Control knob, 11

D
Display, 10
Display unit, 10
  Back button, 11
  Control knob, 11
  Display, 10
  OK button, 11
  Status lamp, 10
  Switch, 11
Disturbances in comfort, 68
  Manage alarm, 68
  Only additional heat, 72
  Troubleshooting, 69

E
External information, 9
  Information window, 9
  Status lamp, 9

F
F1245 – An excellent choice, 6
F1245 – at your service, 22
  Adjust the heat pump, 55
  Get information, 51
  Set the hot water capacity, 45
  Set the indoor climate, 22

G
Get information, 51
Glossary, 74

H
Heat pump function, 8
Help menu, 16

I
Important information, 2
  Contact information, 5
  F1245 – An excellent choice, 6
  Installation data, 2
  Serial number, 4
Information window, 9
Installation data, 2

M
Maintenance of F1245, 17
  Regular checks, 17
  Saving tips, 18
Manage alarm, 68
Menu system, 12
  Help menu, 16
  Operation, 13
  Scroll through the windows, 16
  Selecting menu, 13
  Selecting options, 14
  Setting a value, 15

O
OK button, 11
Only additional heat, 72
Operation, 13

P
Power consumption , 19

R
Regular checks, 17

S
Saving tips, 18
  Power consumption , 19
Scroll through the windows, 16
Selecting menu, 13
Selecting options, 14
Serial number, 4
Set the hot water capacity, 45
Set the indoor climate, 22
Setting a value, 15
Status lamp, 9, 10
Switch, 11

T
Technical data, 73

The heat pump – the heart of the house, 7
Troubleshooting, 69

NIBE AB Sweden
Järnvägsgatan 40
Box 14
SE-285 21 Markaryd
info@nibe.se
www.nibe.eu